

Abstract of the Invention

One aspect of the invention relates to a method of removing a hard mask from a surface, especially a silicon surface. The hard mask is removed by first applying a sacrificial coating and then plasma etching. The sacrificial material fills pattern gaps formed using the hard mask and protects insulators, such as oxides, within those pattern gaps. The sacrificial material is removed together with the hard mask by the plasma etching. The invention provides a process for removing hard masks from silicon layers without significantly damaging either the silicon layer or any exposed oxides and can be applied in a variety of integrated circuit device manufacturing processes, such as patterning the floating gate layer of a flash memory device.

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